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ABSTRACT

This publication is designed to help the teacher in developing environmental study areas. Numerous examples of study areas, including airports, lakes, shopping centers, and zoos, are listed. A current definition of environmental study areas is given and guidelines for their development and identification are included. The appendix, which comprises most of the pages of the booklet, contains an outdoor environmental study area inventory and evaluation form, and a selected bibliography of materials for planning school sites or outdoor laboratories. (MA)

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DEVELOPING ENVIRONMENTAL

STUDY AREAS

TENNESSEE VALLEY AUTHORITY

SE019196

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DEVELOPING ENVIRONMENTAL STUDY AREAS

Prior to the late 1960's and early 1970's, the term "environmental study area" was seldom used. When it was, it usually referred to the school site, a vacant lot, outdoor laboratory, nature center, or nature study area. These areas were, and still are, used primarily to help instill awareness, appreciation of nature, and an environmental ethic in students. Areas have been used mostly by elementary school students. Many educators feel that elementary students are too young to deal with environmental problems per se. They are more prepared to do this when they are in junior and senior high school. Awareness of natural processes and environmental problems is very important. This should be emphasized at all grade levels and carried through the student's adult life.

Under the modern concept of environmental education, the use of the term "environmental study area" refers to many man-made as well as natural environments. Although most environmental problem solving is done by junior or senior high school students, elementary students also make field trips to environmental study areas. A comprehensive environmental education program would include field trips to many of the following:

Airport
Aquarium
Arboretum
Camp
Cave
Christmas tree farm
City water supply plant
Coal mine
Composting plant
Conservation education center
Convalescent home
Dam
Dog pound
Electrical generating plant
Environmental education center
Fair
Farm
Fish hatchery
Fire tower
Fur farm
Game farm
Gasoline refinery
Ghetto
Greenhouse
Grist mill
Hospital
Iron and steel plant
Junkyard
Lake
Maple sugar camp
Marsh
Meadow
Museum
National forest
Nature center
Nature preserve
Open dump
Outdoor school site
Park
Planetarium
Pond
Railroad yard
Recycling plant
Road cut (fossils)
Rock quarry
Sanitary landfill
Sewage disposal plant
Shopping center

(Printed on recycled paper)

Stream
Strip mine
Subdivision development
Super highway construction
Supermarket
Swamp
Tree nursery
Truck garden
Vocational-Technical school
Water power plant (hydroelectric)
Weather station
Well-managed watershed
Zoo

In some model environmental education programs in the country, teachers increase the geographic range and scope of efforts according to grade levels. For example, kindergarten through second grade may study the school facilities, e.g., the physical plant itself—materials used in its construction or resource utilization, the heating system, etc. Third grade might study the school site, neighborhood, or community. Fourth through sixth grades may study the town, city, and county. Seventh through ninth grades may study the state and region. Tenth through twelfth grades may expand their range to national and international topics of concern. All subject areas in the curriculum are considered, and pretrip, trip, and posttrip instructional activities are developed. Field trips to environmental study areas help enrich classroom studies and make the student's education more relevant to real-life situations.

Often a single teacher in a school system wants to begin an environmental education program by developing an environmental study area. To make this a successful endeavor, it is important that all teachers in the school are involved and that they understand environmental education includes many things they are now doing or can do in their respective disciplines. Unfortunately, some teachers do not realize there are many important aspects of environmental education other than tree identification or the biological sciences. This may be due to a lack of understanding of environmental education and an interdisciplinary program in the existing school system. The teacher interested in establishing a program or environmental study area should get approval from the school principal and perhaps the system's superintendent. After approval is received, a good way to begin is by having a person who operates a model program speak to school administrators, teachers, and the parent-teacher organization. The second step would be to establish a committee of five to ten people to assist in program planning, implementation, operation, and evaluation. In addition to teachers, it is good to have students, parents from the school, school administrators, and community resource people on the committee. It is important to involve as many people as is practical in the process. Coordinating work with those individuals and entities with concerns or interests is also very important. Some of the tasks of the committee would include:

1. Reviewing the literature to see what has been done with environmental study areas and model environmental education programs by other educators in the Nation. This prevents duplication of efforts and "reinventing the wheel."

2. Identifying potential environmental study areas which can be used for field trips and securing permission to use them from the owners. Include a description of the unique features of each area and how the area can be used for educational purposes. An interdisciplinary team of resource people (engineers, soil scientists, foresters, biologists, etc.) can help with this.

3. Developing a program plan for each environmental study area and considering the impact of the various types of developments (if developments such as trail systems, teaching stations, etc., are proposed) desired on the area to be used.

4. Determining what human resources (engineers, foresters, etc.) are available in the community and securing commitments from those individuals and groups interested in assisting with program development. Some of these individuals might lecture to students at the environmental study area or in the classroom.

5. Determining possible funding sources for program development.

6. Preparing proposals for grants of aid.

7. Developing a comprehensive program plan which includes problems; needs; constraints; goals; objectives; concepts, activities (teacher training, curriculum development, etc.), and strategies for accomplishing the objectives; a schedule or time line for performing work; manpower needs; budget; and evaluation plan.

8. Developing a process for reporting progress on work to newspaper editors, TV, and radio stations.

Many schools begin an environmental education program by developing a specific school site, outdoor laboratory, or nature study area. A great deal has been written on this subject; and, therefore, there is no need to discuss it in detail in this paper. However, a few suggestions are given.

There are many sources of help the teacher can get in developing the outdoor laboratory. The U.S. Forest Service, U.S. Soil Conservation Service, National Park Service, Tennessee Valley Authority, state departments of education, and state departments of conservation are some of the agencies having resource specialists who assist in such efforts without charging fees. If money is available for program development, there are many good consultants available from firms and educational institutions. For information on consultants, obtain the following publication:

Directory of Environmental Consultants, edited by Bill Cate, 1972.
Available from: Directory of Environmental Consultants
122 Collins Street
San Francisco, California 94118

The Audubon Society's Nature Center Planning Division is a very good place to inquire for assistance. Write to:

Director
Nature Center Planning Division
National Audubon Society
950 Third Avenue
New York, New York 10022

Frequently, a resource person (or team of persons) is called upon by teachers to help evaluate the potential of an outdoor study area. Appendix A indicates the scope of the topics to be considered and can be used for recording relevant data and information.

Teachers interested in developing a school site or outdoor laboratory should review the bibliography before proceeding.

OUTDOOR ENVIRONMENTAL STUDY AREA INVENTORY AND EVALUATION FORM*

AREA NAME _____

STATE _____ COUNTY _____

ADMINISTRATIVE AGENCY OR OWNER _____

TYPE OF AREA (Check those that apply):

Park ..... _____
Recreation Area ..... _____
Beach ..... _____
Wilderness ..... _____
Forest ..... _____
Nature Preserve ..... _____
Wildlife Refuge ..... _____
Outdoor Laboratory ..... _____
Outdoor School Site ..... _____
Other _____

SIGNIFICANCE (check one): National____ Regional____ State____ Local____

ACCESS: By road: Paved____ Improved____ Unimproved____
By water:____ By other (specify): _____
Miles from major highway (Route #) _____

EXISTING NATURAL FEATURES (within boundaries shown on map): TOTAL ACREAGE____

FOREST:
Upland_____ Acres_____%
Lowland_____ Acres_____%
Swamp_____ Acres_____%

MARSH:
Freshwater_____ Acres_____%
Estuary_____ Acres_____%
Saltwater_____ Acres_____%

OPEN LAND:
Crops_____ Acres_____%
Pasture_____ Acres_____%
Other_____ Acres_____%

WATER:
Streams_____ Acres_____%
Lakes_____ Acres_____%
Ponds_____ Acres_____%

ATTRACTIONS (check and explain only outstanding features):

Topography _____
Geology _____
Wildlife _____
Vegetation _____
Water Feature _____

*Attach additional sheets when insufficient space is available on the form for discussing topics.

ATTRACTIONS (continued):

History and Archaeology _____
Recreation Opportunity _____
Beach _____
Vistas _____
Other _____

IF AREA IS OUTDOOR SCHOOL SITE:

SCHOOL TYPE: Elementary____Junior High____High School____Other_____
GRADES INCLUDED:_____ TOTAL ENROLLMENT:_____
ESTIMATE IN PERCENT THE USE OF THE TOTAL SITE:

1. Building, parking, roads, sidewalks_____ _____
2. Formal lawns and landscaped areas_____ _____
3. Play areas - athletic fields, tennis courts, swings, blacktop_____ _____
4. Athletic areas - football fields, etc._____ _____
5. Undeveloped or unused area with outdoor education potential_____ _____
6. Other (be specific)_____ _____

_____ _____

100%

What is your opinion as to the potential for developing this site into a usable area for outdoor environmental studies? (A perimeter development on even small sites is always a possibility.)
HIGH POTENTIAL____SOME POTENTIAL____VERY LOW POTENTIAL_____
Possibly a perimeter type area could be established_____
(sketch map attached)

EXISTING DEVELOPMENTS OR FACILITIES (describe)_____

_____

_____

_____

EXISTING USE (type and degree)_____

_____

_____

_____

SOILS [describe conditions; types, such as clay, silt, sand, sand to gravel (0.5" or less), gravel, boulders, and bedrock]_____

_____

_____

_____

TREES (describe conditions; density, such as open, medium, or closed)_____

_____

_____

_____

SLOPE (describe percentage 0 to 5%, 5 to 15%, 15% plus)_____

_____

_____

_____

WILDLIFE (rare or endangered species)_____

_____

_____

FISH (species and abundance)_____

_____

_____

STREAMS, LAKES, OR PONDS (type and significance)_____

_____

_____

_____

_____

WILDLIFE (species and abundance)_____

_____

_____

_____

VEGETATION TYPES AND LAND USE (species, maturity, percent, etc.)_____

_____

_____

_____

FISH AND WILDLIFE POTENTIAL_____

_____

_____

_____

_____

OTHER COMPATIBLE USES_____

_____

_____

_____

POTENTIAL DEVELOPMENT (for both existing and potential areas)

Does development or expansion appear feasible? Yes____ No____ Explain_____

_____

_____

_____

Special problems_____

_____

_____

Limitations_____

_____

_____

Suggest facilities to be constructed_____

_____

_____

EVALUATION, COMMENTS, AND RECOMMENDATIONS:_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

REFERENCE (persons and records consulted in obtaining above information and location of maps and pictures):_____

_____

_____

_____

_____

_____

SURVEY CONDUCTED BY:

NAME OF REPORTER(S)	AGENCY	DATE OF REPORT	DATE OF FIELD SURVEY

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The Model Environmental Education Program

A model environmental education program is one which helps the individual become (1) aware of the environment and its associated problems; (2) concerned, knowledgeable, and accurately informed about the problems; (3) knowledgeable and informed about the possible future consequences of the problems; (4) engaged in clarifying values and making decisions based on attitudes and beliefs; (5) involved in finding the solutions to environmental problems–alternatives, tradeoffs, compromises, and costs; and (6) committed to and involved in some type of constructive action which enhances environmental quality.

–Jonathan M. Wert, Ph.D.